Credit Hours: 3 credits
Prerequisites/ Department consent: LSC 551, LSC 555

Classroom
Marist Info Commons

Days and hours of class meetings and labs or discussion sections
Monday evening from 7:10 - 9:40pm

Instructor contact information
Full name and title: Michael Acadia (Instructor)
Office location: TBD
Phone: 301-351-8932
E-mail: acadia@cua.edu or michael@mxaweb.com
Office Hours: TBD

Course Description
Solid introduction to the terminology, concepts and practice of information storage and retrieval systems design. Special emphasis on user needs assessments, data integrity, data models and record structure, and data manipulation. Other topics include: current awareness of relational database model, query languages, data normalization techniques, client-server systems, database warehousing and data mining. Practice in developing a small database application.

Instructional Methods
Lectures, discussions, in-class practice and exercise.

Required Text


Supplemental readings will be available via the course’s Blackboard page.

Recommended Text
None.

Other materials (e.g. lab supplies, calculators)
None.
Required Technologies
The following capabilities are required for course delivery:
- Flash drive for storing databases created in class.

The following technologies are taught as an essential part of this course:
- Microsoft SQL Server 2008 R2

Libraries
The CUA Libraries' wide range of resources and services, including databases, online journals, and FAQs are on the main web site. For assistance on papers and assignments, consult the research guides or schedule an appointment with a subject librarian.

Course Goals
The primary objective of this class is the introduction of database terminologies, concepts and practice of information storage and retrieval. Students will gain confidence in their ability to access, design and make minor modifications to an applications database, with an emphasis on databases used in a library environment. Using a combination of instruction and hands-on practice students will have a firm understanding of how to access and use a SQL Server Database.

Goals for Student Learning
- Understand what a database is, including its physical and logical structures.
- Understand what SQL is and describe its major features including DDL and DML.
- Create database and data files.
- Create database objects such as tables, indexes and views.
- Access the data using SQL queries.
- Manage security and user access.
- Manage a RDBMS using maintenance jobs.
- Understand how databases are used to support libraries.

Course Requirements
Grades will be based on assignments and examinations as follows:
- Assignments 60% (4 assignments, 15% each)
- Midterm exam 15%
- Final Exam 15%
- Class participation 10%

Expectations and policies

Academic honesty: Academic honesty is expected of all CUA students. Faculty are required to initiate the imposition of sanctions when they find violations of academic honesty, such as plagiarism, improper use of a student’s own work, cheating, and fabrication. The following sanctions are presented in the University procedures related to Student Academic Dishonesty (from http://policies.cua.edu/academicundergrad/integrityprocedures.cfm): “The presumed sanction for undergraduate students for academic dishonesty will be failure for the course. There may be circumstances, however, where, perhaps because of an undergraduate student’s past record, a more serious sanction, such as suspension or expulsion, would be appropriate. In the context of graduate studies, the expectations for academic honesty are greater, and therefore the presumed sanction for dishonesty is likely to be more severe, e.g., expulsion. ...In the more unusual case, mitigating circumstances may exist that would warrant a lesser sanction than the presumed sanction.”
Please review the complete texts of the University policy and procedures regarding Student Academic Dishonesty, including requirements for appeals, at http://policies.cua.edu/academicundergrad/integrity.cfm and http://policies.cua.edu/academicundergrad/integrity.cfm.

Other Policies or Expectations. Note your policies or expectations (e.g. Attendance and punctuality policy, Participation expectation, note re: cell phones, timeliness on papers, form of submission of papers electronic vs. hard copy, policy on making up (or not) quizzes, tests etc.)

Accommodations for students with disabilities: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor privately to discuss specific needs. Please contact Disability Support Services (at 202 319-5211, room 207 Pryzbyla Center) to coordinate reasonable accommodations for students with documented disabilities. To read about the services and policies, please visit the website: http://disabilitysupport.cua.edu.

Assessment: Grading Scale

<table>
<thead>
<tr>
<th>Grades</th>
<th>Credit</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>95 - 100</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td>90 - 94</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td>86 - 89</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>83 - 85</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>79 - 82</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td>75 - 78</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>71 - 74</td>
</tr>
<tr>
<td>C-</td>
<td>1.5</td>
<td>68 - 70</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td>60 - 67</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0 - 59</td>
</tr>
</tbody>
</table>

University grades
The University grading system is available at http://policies.cua.edu/academicundergrad//gradesfull.cfm#II for undergraduates and http://policies.cua.edu/academicgrad//gradesfull.cfm#iii for graduate students.
Reports of grades in courses are available at the end of each term on http://cardinalstation.cua.edu.

Course Schedule
1/9/2012: Relational Database Fundamentals.
- Course overview
- Overview of Relational Database Concepts.
- Relational Databases and Relational Database Management Systems.
- Introduction to SQL Server Management Studio
- Begin reading: Ch 1: The Relational Database; Ch 2: Design Objectives; Ch 3: Terminology

1/16/2012: HOLIDAY

1/23/2012: SQL
- DDL commands
- Begin reading: Ch 4: Conceptual Overview; Ch 5: Starting the Process
1/30/2012: SQL
- Assignment 1 Due
- DDL and DML
- Begin reading: Ch 6: Analyzing the Current Database; Ch 7: Establishing Table Structures

2/6/2012: SQL
- DML
- Begin reading: Ch 8: Keys; Ch 9: Field Specifications

2/13/2012: SQL
- DML
- Begin reading: Ch 10: Table Relationships

2/20/2012: SQL
- Assignment 2 Due
- DML
- Begin reading: Ch 11: Business Rules; Ch 13: Reviewing Data Integrity

2/21/2012: SQL
- DML
- Reading: Ch 11: Business Rules; Ch 13: Reviewing Data Integrity

2/27/2012: SQL
- Midterm Due

3/5/2012: SPRING BREAK

3/12/2012: SQL
- DML
- Begin reading: Ch 12: Views; Ch 14: Bad Design - What Not to Do; Ch 15: Bending or Breaking the Rules

3/19/2012: Database Security
- Assignment 3 Due
- Schemas and roles

3/26/2012: Backup and restore databases
- Choosing Appropriate Database Recovery Model Option.
- Describing Automatic Recovery.
- Choosing an Appropriate Backup Strategy.

4/2/2012: Catch-up or review

4/9/2012: HOLIDAY

4/16/2012: Other RMBMS systems
- Assignment 4 Due
• Overview of other RDBMS (MS Access, MySQL, Oracle). How, when, why to choose a database system or flat file (such as MS Excel).

4/23/2012: Course Review
• Final Exam Due

Exams
Midterm
Take-home exam due 2/27/2012 at start of class.

Final
Take-home exam due 4/23/2012 at start of class.

Assignments
All assignments are due by the beginning of class on due date. Upload all assignments to Blackboard unless otherwise noted. For written work, I can accept MS Word, OpenOffice.org, or PDF documents. Please add a header to your document including your last name and page (preferably in page x of y format).